

SLOVENSKI STANDARD
SIST EN 61000-4-14:2001/A2:2009
01-november-2009

Elektromagnetna združljivost (EMC) - 4-14. del: Preskusne in merilne tehnike - Preskus odpornosti proti napetostnemu kolebanju (IEC 61000-4-14:1999/A2:2009)

Electromagnetic compatibility (EMC) -- Part 4-14: Testing and measurement techniques - Voltage fluctuation immunity test

Elektromagnetische Verträglichkeit (EMV) -- Teil 4-14: Prüf- und Meßverfahren - Prüfung der Störfestigkeit gegen Spannungsschwankungen

Compatibilité électromagnétique (CEM) -- Partie 4-14: Techniques d'essai et de mesure - Essai d'immunité aux fluctuations de tension

<https://standards.iteh.ai/catalog/standards/sist/8abd2978-0cab-42a1-aa31-644e876fc9c6/sist-en-61000-4-14-2001-a2-2009>

Ta slovenski standard je istoveten z: EN 61000-4-14:1999/A2:2009

ICS:

33.100.20 Imunost Immunity

SIST EN 61000-4-14:2001/A2:2009 en,fr

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 61000-4-14/A2

August 2009

ICS 33.100.20

English version

**Electromagnetic compatibility (EMC) -
Part 4-14: Testing and measurement techniques -
Voltage fluctuation immunity test for equipment
with input current not exceeding 16 A per phase
(IEC 61000-4-14:1999/A2:2009)**

Compatibilité électromagnétique (CEM) -
Partie 4-14: Techniques d'essai
et de mesure -
Essai d'immunité aux fluctuations
de tension pour le matériel
dont le courant d'entrée
est inférieur ou égal à 16 A par phase
(CEI 61000-4-14:1999/A2:2009)

Elektromagnetische
Verträglichkeit (EMV) -
Teil 4-14: Prüf- und Messverfahren -
Prüfung der Störfestigkeit
von Geräten und Einrichtungen
mit einem Eingangsstrom
bis einschließlich 16 A je Leiter
gegen Spannungsschwankungen
(IEC 61000-4-14:1999/A2:2009)

[SIST EN 61000-4-14:2001/A2:2009](https://standards.iteh.ai/catalog/standards/sist/8abd2978-0cab-42a1-aa31-644e876fc9c6/sist-en-61000-4-14-2001-a2-2009)

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This amendment A2 modifies the European Standard EN 61000-4-14:1999; it was approved by CENELEC on 2009-07-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 77A/669/CDV, future amendment 2 to IEC 61000-4-14:1999, prepared by SC 77A, Low frequency phenomena, of IEC TC 77, Electromagnetic compatibility, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A2 to EN 61000-4-14:1999 on 2009-07-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2010-04-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2012-07-01

Endorsement notice

The text of amendment 2:2009 to the International Standard IEC 61000-4-14:1999 was approved by CENELEC as an amendment to the European Standard without any modification.

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IEC 61000-4-14

Edition 1.0 2009-05

INTERNATIONAL STANDARD

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BASIC EMC PUBLICATION
PUBLICATION FONDAMENTALE EN CEM

AMENDMENT 2
AMENDEMENT 2

iTeh STANDARD PREVIEW
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Electromagnetic compatibility (EMC) –
Part 4-14: Testing and measurement techniques – Voltage fluctuation immunity
test for equipment with input current not exceeding 16 A per phase

Compatibilité électromagnétique (CEM) –
Partie 4-14: Techniques d'essai et de mesure – Essai d'immunité aux
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égal à 16 A par phase

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FOREWORD

This amendment has been prepared by subcommittee 77A: Low frequency phenomena, of IEC technical committee 77: Electromagnetic compatibility.

The text of this amendment is based on the following documents:

Enquiry draft	Report on voting
77A/669/CDV	77A/685/RVC

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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Main title

[SIST EN 61000-4-14:2001/A2:2009](https://standards.iteh.ai/catalog/standards/sist/8abd2978-0cab-42a1-aa31-66b876f0a918/sist-61000-4-14:2001-a2-2009)

[https://standards.iteh.ai/catalog/standards/sist/8abd2978-0cab-42a1-aa31-](https://standards.iteh.ai/catalog/standards/sist/8abd2978-0cab-42a1-aa31-66b876f0a918/sist-61000-4-14:2001-a2-2009)

Replace the part title on the cover page, the title page, above the Foreword and the Scope by the following:

Part 4-14: Testing and measurement techniques – Voltage fluctuation immunity test for equipment with input current not exceeding 16 A per phase

2 Normative references

Replace the existing text of the first paragraph by the following new text:

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Convert dated references into undated references.

5 Test levels

Replace the entire text after Table 1 with the following new text:

The repetition period T and the duration t of the voltage fluctuations are specified as $T = 5$ s and $t = 2$ s (see Figure 1d).

The changes from the initial voltage to the test voltage, or from the test voltage back to the initial voltage are achieved through five successive voltage steps in five consecutive cycles of

the mains supply, see Figure 1d. Each voltage step is of $\Delta U/5$ and occurs over $\pi/2$ radians of the period of the nominal frequency, f_n , (e.g. 5 ms for 50 Hz) see Figure 1b and Figure 1c.

For falling voltage changes, the voltage step begins at phase angle $\varphi = 270^\circ$ and finishes at $\varphi = 360^\circ$, see Figure 1b.

For rising voltage changes, the voltage step begins at phase angle $\varphi = 180^\circ$ and finishes at $\varphi = 270^\circ$, see Figure 1c.

x is an open test level. This value may be defined by the product standard in order to cover situations other than the normal operating conditions of the network.

All of the levels can be proposed by the product committee, but for equipment for use in public supply systems, the values shall not be lower than those specified for class 2.

NOTE The upper and lower voltage operation limits defined by the product manufacturer should not be exceeded.

6.2 Characteristics and performance of the test generator

Replace the existing Table 2 by the following new Table:

Table 2 – Characteristics of the test generator

Output voltage capability	$U_n \pm 15\%$
Voltage accuracy	$\pm 1\%$
Zero crossing accuracy	250 μ s at zero voltage crossover
Output current capability	The generator shall be able to supply enough current according to the type of EUT in the test voltage range.
Overshoot/undershoot of the actual voltage	Less than 5 % of the change in voltage
Voltage rise (and fall) time during switching	Under 1 ms
Maximum interphase error (three-phase power supply)	2,5°
Frequency accuracy	2,5 % of f_n (50 Hz or 60 Hz)
NOTE The generator with a power amplifier specified in IEC 61000-4-11 is suitable for this test. An over-voltage capability of $U_n + 15\%$ is necessary.	

6.3 Verification of the test generator

Replace the second paragraph by the following new paragraphs:

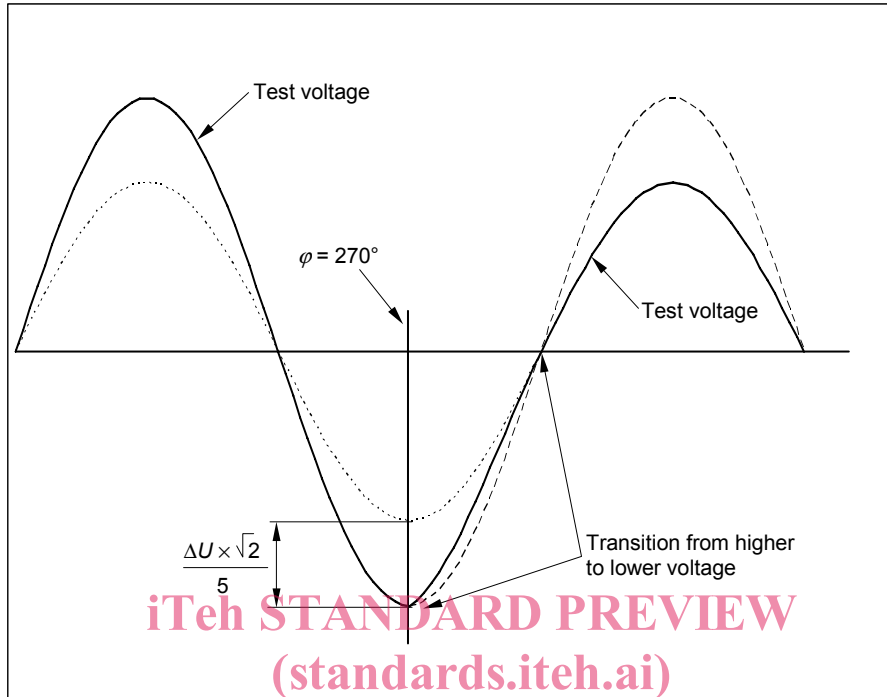
The test generator shall be verified that it complies with the characteristics and specifications listed in Table 2.

Performance of the test generator shall be verified with a resistive load drawing an r.m.s. current of no more than the output capability of the generator. For example, a 230 V/16 A generator shall be verified with a 14,3 Ω load.

In addition, the generator's output current capability shall be verified as being able to provide a crest factor of at least 3 when U_n is applied to a single phase load drawing an r.m.s. current of no more than the output capability of the generator. Each output phase of the generator shall be verified in turn. An example of a suitable 230 V/16 A verification load is given in Figure 4.

Figure 1 Example of test sequences of voltage fluctuations

Replace Figure 1b and Figure 1c by the following new Figures 1b and 1c and add new Figure 1d:

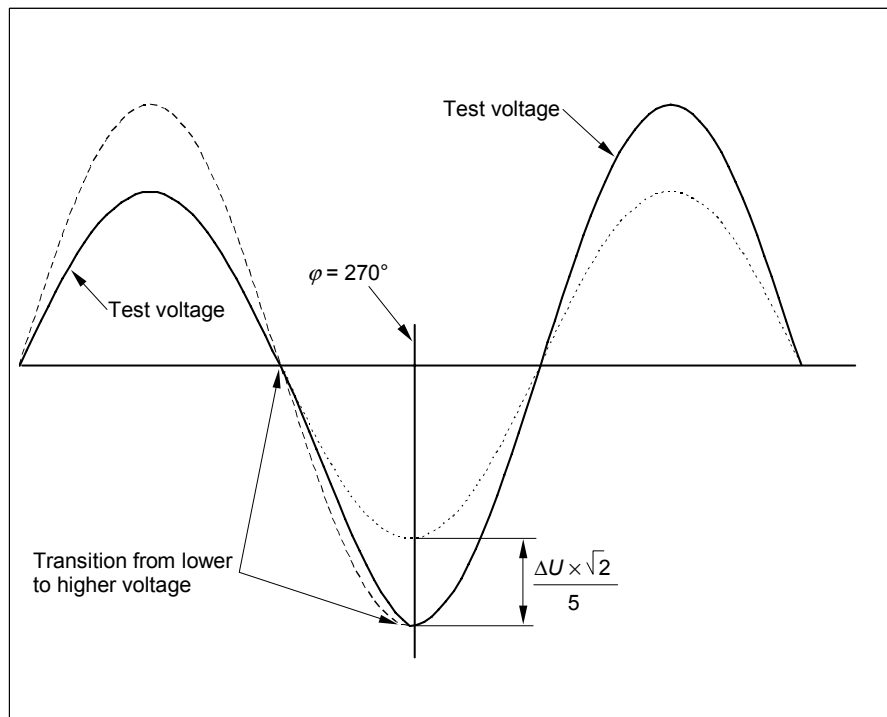


IEC 671/09

SIST EN 61000-4-14:2001/A2:2009

NOTE ΔU is r.m.s., this figure shows instantaneous voltage.

Figure 1b – Example of a voltage step for falling voltage



IEC 672/09

NOTE ΔU is r.m.s., this figure shows instantaneous voltage.

Figure 1c – Example of a voltage step for rising voltage